United Nations S/2017/777

Security Council

Distr.: General
13 September 2017

Original: English

Note by the President of the Security Council

At its 7488th meeting, held on 20 July 2015 in connection with the item entitled "Non-proliferation", the Security Council adopted its resolution 2231 (2015).

In paragraph 4 of the resolution, the Security Council requested the Director General of the International Atomic Energy Agency to provide regular updates to the Council on implementation by the Islamic Republic of Iran of its commitments under the Joint Comprehensive Plan of Action and to report at any time any issue of concern directly affecting fulfilment of those commitments.

Accordingly, the President herewith circulates the report of the Director General dated 31 August 2017 (see annex).

17-16031 (E) 150917

Please recycle

Annex

Letter dated 31 August 2017 from the Director General of the International Atomic Energy Agency addressed to the President of the Security Council

I have the honour to enclose herewith the report submitted to the Board of Governors of the International Atomic Energy Agency (see enclosure).

I should be grateful if you would bring the present letter and the enclosed report to the attention of all members of the Security Council.

(*Signed*) Yukiya **Amano**

Enclosure

[Original: Arabic, Chinese, English, French, Russian and Spanish]

Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015)*

Report by the Director General

A. Introduction

1. This report of the Director General to the Board of Governors and, in parallel, to the United Nations Security Council (Security Council), is on the Islamic Republic of Iran's (Iran's) implementation of its nuclear-related commitments under the Joint Comprehensive Plan of Action (JCPOA) and on matters related to verification and monitoring in Iran in light of Security Council resolution 2231 (2015). It also provides information on financial matters, and the Agency's consultations and exchanges of information with the Joint Commission, established by the JCPOA.

B. Background

2. On 14 July 2015, China, France, Germany, the Russian Federation, the United Kingdom, the United States of America, with the High Representative of the European Union for Foreign Affairs and Security Policy (E3/EU+3) and Iran agreed on the JCPOA. On 20 July 2015, the Security Council adopted resolution 2231 (2015), in which, inter alia, it requested the Director General to "undertake the necessary verification and monitoring of Iran's nuclear-related commitments for the full duration of those commitments under the JCPOA".[1] In August 2015, the Board of Governors authorized the Director General to implement the necessary verification and monitoring of Iran's nuclear-related commitments as set out in the JCPOA, and report accordingly, for the full duration of those commitments in light of Security Council resolution 2231 (2015), subject to the availability of funds and consistent with the Agency's standard safeguards practices. The Board of Governors also authorized the Agency to consult and exchange information with the Joint Commission, as set out in GOV/2015/53 and Corr.1.

3. In December 2016 and January 2017, the Director General shared with Member States nine documents,[2] developed and endorsed by all participants of the Joint Commission, providing clarifications for the implementation of Iran's nuclear-related measures as set out in the JCPOA for its duration.[3]

4. The estimated cost to the Agency for the implementation of Iran's Additional Protocol and for verifying and monitoring Iran's nuclear-related commitments as set out in the JCPOA is €9.2 million per annum. For 2017, extrabudgetary funding is necessary for €6.2 million of the €9.2 million.[4] As of 28 August 2017, €8.4 million

---

* Circulated to the Board of Governors of the International Atomic Energy Agency under the symbol GOV/2017/35.

[1] The actions requested of the Director General by the Security Council as contained in resolution 2231 (2015) are set out in GOV/2015/53 and Corr.1, para. 8.

[2] Reproduced in INFCIRC/907 and INFCIRC/907/Add.1.

[3] GOV/2017/10, para. 3.

[4] The cost of the provisional application of Iran's Additional Protocol (€3.0 million) is being met from the regular budget (GC(60)/2).

of extrabudgetary funding was available to meet the cost of JCPOA related activities for 2017 and beyond.

C. JCPOA verification and monitoring activities

5. Since 16 January 2016 (JCPOA Implementation Day), the Agency has verified and monitored Iran's implementation of its nuclear-related commitments in accordance with the modalities set out in the JCPOA,[5] consistent with the Agency's standard safeguards practices, and in an impartial and objective manner.[6,7] The Agency reports the following for the period since the issuance of the Director General's previous quarterly report.[8]

C.1. Activities related to heavy water and reprocessing

6. Iran has not pursued the construction of the Arak heavy water research reactor (IR-40 Reactor) based on its original design.[9,10] Iran has not produced or tested natural uranium pellets, fuel pins or fuel assemblies specifically designed for the support of the IR-40 Reactor as originally designed, and all existing natural uranium pellets and fuel assemblies have remained in storage under continuous Agency monitoring (paras 3 and 10).[11]

7. Iran has continued to inform the Agency about the inventory of heavy water in Iran and the production of heavy water at the Heavy Water Production Plant (HWPP)[12] and allowed the Agency to monitor the quantities of Iran's heavy water stocks and the amount of heavy water produced at the HWPP (para. 15).

8. In a letter dated 6 June 2017, Iran informed the Agency of its plan to transfer about 19 tonnes of heavy water out of Iran. Prior to the transfer, the Agency verified and sealed 19.1 metric tonnes of nuclear grade heavy water that Iran was preparing for such transfer. On 18 June 2017, Iran informed the Agency that the heavy water had reached its destination outside Iran. From 16 to 20 July 2017, the Agency verified the quantity of 19.1 metric tonnes of the nuclear grade heavy water at the destination outside Iran.

9. As previously reported, on 16 May 2017, the Agency verified that the HWPP was shut down.[13] In a letter dated 11 June 2017, Iran informed the Agency that the operator of the HWPP intended to "start up" the plant on 17 June 2017. On 7 August

---

[5] Including the clarifications referred to in para. 3 of this report.

[6] GOV/2016/8, para. 6.

[7] Note by the Secretariat, 2016/Note 5.

[8] GOV/2017/24.

[9] The calandria was removed from the reactor and rendered inoperable during preparation for Implementation Day and has been retained in Iran (GOV/INF/2016/1, Arak heavy water research reactor, paras 3(ii) and 3(iii)).

[10] As indicated previously (GOV/2017/24, footnote 10), Iran has changed the name of the facility to the Khondab Heavy Water Research Reactor.

[11] The paragraph references in parentheses throughout Sections C and D of this report correspond to the paragraphs of 'Annex I — Nuclear-related measures' of the JCPOA.

[12] HWPP is a facility for the production of heavy water which, according to the design information provided by Iran to the Agency on 25 January 2016, has a nominal capacity of 16 tonnes of nuclear grade heavy water per year and an actual capacity of "about 20 tonnes" of nuclear grade heavy water per year. In response to the Agency's request of 12 May 2017 (GOV/2017/24, footnote 12), Iran informed the Agency, in a letter dated 18 June 2017, that the "maximum annual capacity of the Heavy Water Production Plant (HWPP) is 20 Tons".

[13] GOV/2017/24, para. 7.

2017, the Agency verified that the plant was in operation and that Iran's stock of heavy water was 111.0 metric tonnes.

10. Throughout the reporting period, Iran had no more than 130 metric tonnes of heavy water (para. 14).

11. Iran has not carried out activities related to reprocessing at the Tehran Research Reactor (TRR) and the Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility or at any of the other facilities it has declared to the Agency (paras 18 and 21).[14]

C.2. Activities related to enrichment and fuel

12. At the Fuel Enrichment Plant (FEP) at Natanz, there have been no more than 5060 IR-1 centrifuges installed in 30 cascades, which remain in the configurations in the operating units at the time the JCPOA was agreed (para. 27). Iran has withdrawn 57 IR-1 centrifuges from those held in storage[15] for the replacement of damaged or failed IR-1 centrifuges installed at FEP (para. 29.1).

13. Iran has continued the enrichment of UF_6 at FEP.[16] Iran has not enriched uranium above 3.67% U-235 (para. 28).

14. Throughout the reporting period, Iran's total enriched uranium stockpile has not exceeded 300 kg of UF_6 enriched up to 3.67% U-235 (or the equivalent in different chemical forms) (para. 56). The quantity of 300 kg of UF_6 corresponds to 202.8 kg of uranium.[17]

15. As of 21 August 2017, the quantity of Iran's uranium enriched up to 3.67% U-235 was 88.4 kg,[18] based on the JCPOA and decisions of the Joint Commission.[19]

16. At the Fordow Fuel Enrichment Plant (FFEP), 1044 IR-1 centrifuges have been maintained in one wing (Unit 2) of the facility (para. 46), of which 1042 IR-1 centrifuges have remained installed in six cascades and two IR-1 centrifuges have remained installed separately for the purpose of conducting "initial research and R&D activities related to stable isotope production".[20] Throughout the reporting period, Iran has not conducted any uranium enrichment or related research and development (R&D) activities, and there has not been any nuclear material at the plant (para. 45).

17. All centrifuges and associated infrastructure in storage have remained under continuous Agency monitoring (paras 29, 47, 48 and 70).[21] The Agency has continued to have regular access to relevant buildings at Natanz, including all of FEP and the Pilot Fuel Enrichment Plant (PFEP), and performed daily access upon Agency request (para. 71). The Agency has also continued to have regular access to FFEP, including daily access upon Agency request (para. 51).

---

[14] Including hot cells at TRR and the MIX facility and shielded cells, referred to in the decision of the Joint Commission of 14 January 2016 (INFCIRC/907).

[15] Para. 17 of this report.

[16] Under the JCPOA, "[f]or 15 years the Natanz enrichment site will be the sole location for all of Iran's uranium enrichment related activities including safeguarded R&D" (para. 72).

[17] Considering the standard atomic weight of uranium and fluorine.

[18] Comprising 77.8 kg of uranium in the form of UF_6; 1.0 kg of uranium in the form of UO_2; 5.5 kg of uranium in fuel assemblies and rods; 0.3 kg of uranium as hold up in process lines; and 3.8 kg of uranium in liquid and solid scrap.

[19] Decisions of the Joint Commission of 6 January and 18 December 2016 (INFCIRC/907), and 10 January 2017 (INFCIRC/907/Add.1).

[20] GOV/2016/46, para. 12.

[21] GOV/2016/46, footnote 15.

18. Iran has conducted its enrichment activities in line with its long term enrichment and R&D enrichment plan, as provided to the Agency on 16 January 2016 (para. 52).

19. On 20 August 2017, the Agency verified that all irradiated TRR fuel elements in Iran have a measured dose rate of no less than 1 rem/hour (at one metre in air).

20. Iran has not operated any of its declared facilities for the purpose of re-converting fuel plates or scrap into UF_6, nor has it informed the Agency that it has built any new facilities for such a purpose (para. 58).

C.3. Centrifuge research and development, manufacturing and inventory

21. No enriched uranium has been accumulated through enrichment R&D activities, and Iran's enrichment R&D with and without uranium has been conducted using centrifuges within the limits defined in the JCPOA (paras 32-42).

22. Iran has provided declarations to the Agency of its production and inventory of centrifuge rotor tubes and bellows and permitted the Agency to verify the items in the inventory (para. 80.1). The Agency has conducted continuous monitoring, including through the use of containment and surveillance measures, and verified that the declared equipment has been used for the production of rotor tubes and bellows to manufacture centrifuges only for the activities specified in the JCPOA (para. 80.2). Iran has not produced any IR-1 centrifuges to replace those that have been damaged or failed (para. 62).

23. All declared rotor tubes, bellows and rotor assemblies have been under continuous monitoring by the Agency, including those rotor tubes and bellows manufactured since Implementation Day (para. 70). Iran has manufactured rotor tubes using carbon fibre that has been sampled and tested by the Agency, all of which has been subject to Agency containment and surveillance measures.[22,23]

D. Transparency measures

24. Iran has continued to permit the Agency to use on-line enrichment monitors and electronic seals which communicate their status within nuclear sites to Agency inspectors, and to facilitate the automated collection of Agency measurement recordings registered by installed measurement devices (para. 67.1). Iran has issued long-term visas to Agency inspectors designated for Iran as requested by the Agency, provided proper working space for the Agency at nuclear sites and facilitated the use of working space at locations near nuclear sites in Iran (para. 67.2).

25. Iran has continued to permit the Agency to monitor — through measures agreed with Iran, including containment and surveillance measures — that all uranium ore concentrate (UOC) produced in Iran or obtained from any other source is transferred to the Uranium Conversion Facility (UCF) at Esfahan (para. 68). Iran also provided the Agency with all information necessary to enable the Agency to verify the production of UOC and the inventory of UOC produced in Iran or obtained from any other source (para. 69).

[22] Decision of the Joint Commission of 14 January 2016 (INFCIRC/907).
[23] GOV/2016/46, para. 18.

E. Other relevant information

26. Iran continues to provisionally apply the Additional Protocol to its Safeguards Agreement in accordance with Article 17(b) of the Additional Protocol, pending its entry into force. The Agency has continued to evaluate Iran's declarations under the Additional Protocol and to conduct complementary accesses under the Additional Protocol to sites and other locations in Iran.

27. The Agency's verification and monitoring of Iran's other JCPOA nuclear-related commitments continues, including those set out in Sections D, E, S and T of Annex I of the JCPOA.

28. During this reporting period, the Agency has not attended meetings of the Procurement Working Group of the Joint Commission (JCPOA, Annex IV — Joint Commission, para. 6.4.6).

F. Summary

29. The Agency continues to verify the non-diversion of declared nuclear material at the nuclear facilities and locations outside facilities where nuclear material is customarily used (LOFs) declared by Iran under its Safeguards Agreement. Evaluations regarding the absence of undeclared nuclear material and activities for Iran remained ongoing.

30. Since Implementation Day, the Agency has been verifying and monitoring the implementation by Iran of its nuclear-related commitments under the JCPOA.

31. The Director General will continue to report as appropriate.